ADDRESS OF EARL STANHOPE, PRESIDENT OF THE MEDICO-BOTANICAL...

Medico-botanical society, ...

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EARL STANHOPE,

PRESIDENT

OF

The Medico-Botanical Society,

FOR THE

ANNIVERSARY MEETING,

JANUARY 16, 1836

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1836.

At a General Meeting of the MEDICO-BOTANICAL SOCIETY OF LONDON, *holden on Wednesday the 11th of May*, 1836,—*It was moved by* SIR HENRY HALFORD, Bart. *President of the Royal College of Physicians, and Grand Cross of the Guelphic Order, seconded by* GEORGE G. SIGMOND, M. D.

AND RESOLVED UNANIMOUSLY,

THAT the thanks of this Society be given to the President, EARL STANHOPE, for his enlightened and valuable Address, and that he be requested to print it for distribution amongst the Fellows.

GEORGE G. SIGMOND, M. D.
JOHN FOOTE, Jun. F.R.C.S. } *Secretaries.*

ADDRESS

OF

EARL STANHOPE,

PRESIDENT

OF

THE MEDICO-BOTANICAL SOCIETY,

FOR THE

ANNIVERSARY MEETING,

January 16th, 1836.

GENTLEMEN,

In addressing those with whom I have the happiness and honor of being associated in this Society, it is the first, as well as the most agreeable, of my duties, to offer to you my sincere and grateful thanks for the continuance of your kindness and confidence, which I am proud to enjoy and shall ever be most desirous of preserving. By re-electing me as your President you have conferred upon me a favor which I most highly prize, although I have not the vanity to suppose that I am entitled to such an enviable distinction, and you have also imposed upon me duties which I am unable adequately to discharge. In attempting to fulfil them I shall trust to your indulgence which I have never failed to experience, and hope that you may tolerate the deficiencies of which I am conscious, and may consider rather my zeal in your service than my ability to promote

your interests. Allow me to assure you that as long as life and health remain to me, I will continue with unabated ardour to co-operate with you in your most laudable and beneficial pursuits; and I have only to regret that my humble endeavours are so disproportioned to the importance of the object and to the interest with which it has inspired me.

It affords me the utmost satisfaction to inform you, that this Society, of which I have so much at heart the prosperity and welfare, has acquired additional fame amongst the members of the medical profession who are peculiarly qualified to appreciate its merits and to derive advantage from its researches. Their assistance, which I have always been most anxious to obtain, is indispensably requisite to our success, for it is only by those practical trials which their professional talents enable them to direct in a safe as well as satisfactory manner, that the medicinal qualities of any substance can be fully ascertained. A plant may appear from botanical analogy to be endowed with active powers, and such may be proved by chemical analysis to be the fact, but its precise operation, the cases in which it ought to be administered, and its actual effects in any disease for which it may be considered useful, can be learned only from repeated trials judiciously made, carefully conducted, and accurately observed. In countries where Botany as well as Chemistry are unknown, many remedies have been beneficially employed, and their efficacy is evinced by the unerring test of experience, but we may be unable to pronounce with certainty what is their mode of action or even what is the principle which constitutes their potency. Such is the case with many Mineral Waters which appear insignificant in their ingredients, but which possess the

most sanative properties, and such is the case also with many popular remedies, which from that circumstance alone may not receive due attention in medical practice, but which always afford valuable hints to further investigation, and may frequently be employed with advantage. I may mention, as an instance, that a person with whom I am well acquainted, and on whose veracity I can implicitly rely, assured me that while suffering from a hoarseness which rendered his voice almost inaudible, he had the curiosity to try a remedy that is mentioned by the celebrated John Wesley, in a work entituled "Primitive Physic." It consists in rubbing the soles of the feet with Garlic and Hog's Lard, before a fire at bed time, and the result was that the hoarseness was immediately removed, and that in less than two minutes afterwards the taste of the root was perceptible in the palate. It would be difficult, it may perhaps be impossible, to explain in this case the *modus operandi*, the manner in which the taste of the Garlic was so rapidly transmitted, or the cause by which the complaint was so suddenly cured, but some instruction is to be drawn from this fact which is noticed only as an illustration. It will not be supposed that I recommend an empirical practice, but I would not omit any opportunity of renewing my recommendations, which I cannot too frequently or too forcibly urge, of submitting to actual trials those substances which may be administered with safety and which are supposed to be successful in the treatment of diseases, and also of investigating fully and of employing scientifically those remedies which have been found to be useful, although they are not contained in any Pharmacopœia, and have been administered by unlearned persons who have acquired only by tradition a knowledge of their virtues.

You will recollect that the Silver Medal of this Society is offered as a prize for the best Essay "*on the "medicinal qualities of any indigenous Plant which is not "yet sufficiently known, or on new uses and applications "of any other indigenous Plant.*" That prize was awarded by the Council to Dr. Rousseau, of Paris, for his admirable paper on the employment in the cure of intermittent fevers by Holly, and by a preparation from it which he terms *Ilicine*. It had already been stated by several authors, and amongst others by Dr. Murray in his *Apparatus Medicaminum*, that the leaves of the Holly had that property, and had been employed with great success by a Physician who had learned their sanative quality from a person ignorant of the art of Medicine. He refers to a Memoir by Durande, in the Transactions of the Medical Society of Paris, and it appears also to have been found by Reil, that "after those fevers resisted the use of the " Peruvian Bark, they yielded to that of this indigenous " plant." It had, however, fallen into unmerited oblivion, from which Dr. Rousseau has the honor of having rescued it by a series of trials the most satisfactory and perfectly decisive. The restoration of that which is lost is inferior only in interest, and may be superior in importance, to the discovery of that which is new, and the world will recognize, with due gratitude, the services of those, who, like Dr. Rousseau, have established, beyond the possibility of doubt, that one of the most common plants affords not only an effectual substitute for an expensive drug, which is frequently adulterated, but also one which, as he assures us, " has fulfilled all the conditions required " of it to supersede the Peruvian Bark in the treatment " of intermittent fever." We find, in fact, amongst the 78 cases recorded by him, and by other Physicians, that

there were 10 in which Bark and Quinine had failed; that in one of these, 36 Quioine Bolnses had been administered without effect, and that in another the oure was accomplished by a single dose, consisting of two drachms of the powdered leaves of Holly, and in the short space of four days. *Ilicine* was employed in only one of the 78 cases, which was that of Nervous Fever, accompanied with Qnotidian Ague, but the preparation of the Leaves is as much distioguished by its simplicity as by its efficacy, and would seem, by its being generally used io the trials that were made, to be considered eqnally serviceable. The dose consists in two drachms of the dried leaves reduced to powder, and macerated for 12 hours, or in four or five ounces of a decoction. It is very much to be wished that Dr. Rousseau had favoured us with the results of his experience oo the comparative advantages of the infusion and of the decoction, hnt judgiog from analogy, I should conceive that the former had the preference.

Rheumatism, which is always so painful and often so difficnlt of cure, which cripples the limbs of the patient, and in many cases deprives him of repose, is the snbject of two Papers that were communicated to this Society,—the one from Dr. Lombard, of Geneva, and the other from Mr. Maynard, in a letter to Mr. Battley. Dr. Lombard found, that in acute articular Rheumatism, the spirituous Extract of the ACONITUM *Napellus*, prepared as he directs, was eminently efficacious, and he states, that all the Patieots were speedily onred, " without the " supervention of any had symptoms," that he never knew a single case which had resisted his plan of treatment, and that he prefers that remedy to Opiates, Sndorifics, and Tartarized Antimony. In two cases, both of which had lasted a fortnight, the Patients were cured in 48

hours; one of them by taking half a grain three times a day, and the other by taking 2 grains every two hours. He condemns the usual mode of preparing the Spiritnous Extract, and thinks that the volatile principle of the Plant is preserved by the process which he adopts; but it may be doubted whether it is not very much diminished, if not wholly lost, by the two evaporations that he employs, and whether its active principle, which, according to the opinion of some Chemists, is destroyed by heat, does not suffer from undergoing a slight boiling. The largest dose which he administers is 9 grains every two hours, but he says that 3 or 4 scruples, or even 1½ drachm may be given in a day without any injurious effects, which, however, does not prove it to be innocuous, for we know that such is also the case with some other Medicines which, frequently repeated, produce dangerous and even fatal consequences, and he allows that the ACONITUM *Napellus* has a powerful action on the nervous system. He states, that it does not destroy what he calls the rheumatic *virus*, but only neutralizes its morbid action, and often allevintes the pain within an hour. It may perhaps operate as a Narcotic; but from the trials which he made, it cannot be considered as a Sudorific, although it was supposed to be such by the celebrated Stork. It was observed by Dr. Lombard to produce only in one case perspiration, and in another case the perspiration, which had previously existed, ceased after the use of the remedy, and, as he believes, in consequence of its operation. It must be remarked, that the Plant, which was named by Linnæus the ACONITUM *Napellus*, is, as we are informed by Mr. Botke, of Prague, a different species from that which was employed by Stork, and which is the *neomontanum* or *intermedium*, names which are not found in the *Hortus*

Britannicus of Sweet, but the *Napellus* is also a synonym of the *neubergense* which grows in Styria.

Of much greater merit is the communication of Mr. Maynard on the Leaves of a Plant from the Cape of Good Hope, which is called *Buchu*, and which, infused in Spirits, has in this country proved extremely successful in Rheumatisms, even in the cases of elderly persons who were become cripples, but who in a short time were enabled to return to their labours. It is applied externally and by friction, and is therefore far safer in its application than the ACONITUM, besides having the advantage of being a domestic remedy, which even in unskilful hands cannot be injurious. Mr. Maynard is led to "believe that there are "virtues in the Plant beyond what it has credit for at "present," and the facts which he mentions prove that such must be the case, so that it would be extremely desirable to ascertain its scientific name, and also whether it could be cultivated in this island. Most earnestly do I wish that some person who is eminently qualified for the investigation, would instruct us on its chemical analysis, and that large quantities of the *Buchu* Leaves were sent to this country for the use of the medical profession, and for the relief of those who are afflicted with Rheumatism. In chronic disorders of that description, Dr. Negri found that beneficial effects were produced by the BALLOTA *lanata*, administered in decoctions from ½ oz. to 1 oz. half at night and half in the morning, and that it operates both diaphoretically and diuretically, from which latter quality it was considered useful in Dropsies.

The Bark of the PRUNUS *Padus*, or common Bird Cherry, which has a strong spicy smell, and a taste resembling that of Bitter Almonds, is stated by Dr. Murray, in his *Apparatus Medicaminum*, to be employed in Lor-

raine and Sweden as a remedy in intermittent fevers. Dr. Bremer, who published in the German language a most interesting Tract on that Plant, found that it very often failed in those disorders, but that it was of great efficacy in cases of Rheumatism, and that when distilled it operated as an antispasmodic, and also as a vermifuge. When given in Rheumatism, it ought not to be administered if there is inflammation, as it is then injurious, and it acts generally as a diaphoretic, sometimes as a diuretic, and in most cases accelerates the circulation. The Bark is to be collected in the Spring, before the leaves appear, is to be used when fresh, and is to be taken in an infusion or decoction. Such were the beneficial effects which it produced, that relief was experienced in 24 hours, and one-third of the Patients, of whose cases he has given a very clear and detailed statement, were cured in less than a fortnight. This very useful discovery was the result of accident, and arose from his observing its salutary influence upon those Patients who suffered from Rheumatism, but to whom it was administered, from their having at the same time intermittent fevers; and it affords another proof, if indeed any could yet be wanted, of the extreme importance, nay, of the absolute necessity, of actual trials.

Dr. Hancock, whose long experience and extensive observations can be equalled only by his indefatigable perseverance in promoting science and the interests of humanity, has furnished to this Society some very valuable communications. One of them relates to the *Waicouri*, or *Waik Root* in Guinna, where he so long resided, and he informs us, that an infusion of the dried root furnishes a very powerful resolvent remedy, and has an anodyne or antispasmodic influence somewhat analo-

gous to that of Opium, but without any of its injurious effects. That influence is perhaps the cause of the beneficial operation that it is found to possess in diminishing the irritability of the pulmonary organ, the disease of which is so often fatal, and is in this climate so frequent and alarming. In the advanced stages of that disease, it is combined with the JUSTICIA *pectoralis*, with the ABRUS *precatorius*, and with other Plants, but especially with Sarsaparilla, which is of great importance, and which Dr. Hancock considers to be one of the most essential auxiliaries in that malady. The Colony of Guiana furnishes several Plants, which, from their medicinal qualities, deserve further inquiries, and amongst others, as we learn from a Paper of Mr. McLennan, that was read before this Society, the ARISTOLOCHIA *siphoflora*, which is an excellent vermifuge, and the ELATERIUM *reticulatum*, which is useful in bilious fevers. Dr. Hancock mentions also a Plant which is called by the Natives *Coonuparu*, and from which a Tinctare is prepared, that, administered in a dose of 5 to 10 drops, is a "most efficacious remedy" in internal inflammation, and gives speedy relief. The Seeds of the Plant act as an hydragogue cathartic, and are of considerable service in Dropsies. The Plant is used by the Natives for intoxicating fish, and is in that respect similar to the PISCIDIA *erythrina*, or Jamaica Dogwood, upon which Dr. Hamilton, one of our Corresponding Members, communicated to us, some time ago, a very interesting Paper. From observing its narcotic effects on fish, Dr. Hamilton was induced, very justly, to suppose that it might have a corresponding operation on the human species, and the result fully confirmed his expectation; for it was found to act like Opium, without, however, producing its injurious consequences. As

the Nux Vomica is well known to be employed also for the purpose of intoxicating fish, may not that circumstance have led to the discovery of its medicinal qualities? and must we not recognize, in every instance, the extreme importance of carefully observing the operations of nature, which are the most admirable, as well as the most instructive, and which lead us not only to the knowledge of truths, that might otherwise remain for ever hidden from our view, but also to the contemplation of Divine Providence?

The Nux Vomica is considered by Dr. Hancock to be "an incomparable remedy in Dysentery and Diarrhœa," when administered three times a day in doses of 2 or 3 grains, combined with an equal quantity of Ipecacuanha, and to be as an anodyne superior to Hemlock, as well as very useful in Hysteria and nervous disorders. He states, that it causes no sensible evacuations, that it checks all inordinate discharges, which exhaust the vital powers, especially in the aged or infirm, and that "under proper "management," it efficiently sustains the powers of the digestive organs, and strengthens the fibres. The Nuts ought, in his opinion, to be roasted, as that operation diminishes their narcotic power, but not their sanative qualities, and he thinks them far preferable to Strychnine, as they are a better tonic, less irritant, and more constant in their operation. Strychnine, which appears to contain only the narcotic principle, is, from its high price of four or five guineas an ounce, very liable to adulteration, and from the uncertainty of its strength, which varies according to the mode of its preparation, perilous in its employment. It need not be remarked, that the utmost prudence is requisite in administering such a toxicological Plant as the Nux Vomica, of which my learned and lamented

Friend, Professor Geiger of Heidelberg, states in his *Pharmacopœia Universalis*, which, I am grieved to say, death prevented him from completing, "*Vis mexime venenata, narcotica, facile tetanum efficiens et lethalis.*"

The loss of such a luminary of science as Professor Geiger is a most grievous misfortune to this Society, and to the learned of all countries, and is felt very severely by myself, who had the happiness of enjoying his personal friendship, and of admiring the domestic virtues which endeared him to his family, as well as the talents and acquirements by which he was eminently adorned. They acquired additional lustre from his modest unassuming character, which was not tarnished by pride or by presumption, and they were directed, with unceasing perseverance, and with unwearied industry, to the zealous pursuit of objects of great practical importance. His works, some of which are in the Library of this Society, and were presented by him when he became a Corresponding Member, are an eternal monument of his merits and services, which can require no panegyric, and cannot be eulogized as they deserved. It was by the express command of his Sovereign, the Grand Duke of Baden, that he began to compose his *Pharmacopœia Universalis*, of which he published the first volume, comprising the *Materia Medica*, and of which the second was intended to contain a comparative statement of the preparations found in all the European Pharmacopœias. So conscientiously did he discharge the duties which were imposed upon him, that in order to prevent any inaccuracies which might arise from inattention, he declined the assistance of any amanuensis, being determined, when conferring benefit on others, to spare no labour to himself.

Mr. Judd, who, as you are well aware, is a most valu-

able Member of the Council, and is now the Librarian, has communicated a very interesting Paper on a new, elegant, and useful Extract of Cubebs, prepared by Mr. Toller, also a Fellow of this Society, and of its beneficial effects in Urethritis. His trials of that medicine were most satisfactory, and the cases which he details bear ample testimony to its merits, as one of the Patients was cured in four days of a disorder that had continued for six weeks, and three others in seven days. He found that the Extract fully retains the resin and the active sanative qualities of the spice, that it passes, without being much altered by the action of the stomach, to the Urethra, and cools and prevents the diseased secretion of that organ. It renders still more effectual the action of Turpentine and Copaiva, and is of advantage when the latter aggravates the symptoms; but it is to be used only in the first and third stages of the disease, and is injurious in the second. It is strongly recommended by Mr. Judd as preferable to the ordinary preparation, which tends to produce plethora in the vessels of the brain, and may therefore be very dangerous. Mr. Toller, to whose scientific skill we owe this preparation, informs us that the Cubebs should be digested repeatedly in Alcohol, which is then to be distilled, and to which some Spanish Soap is afterwards to be added, in order to prevent the separation of the resin, and to preserve an uniform consistence.

My learned Friend, Dr. Sigmond, whose professional eminence, whose scientific acquirements, whose zealous, unremitting exertions in promoting the welfare of this Society render his assistance of inestimable value, and such as we cannot acknowledge with sufficient gratitude, has, amongst other communications that are equally useful and instructive, favored us with a Paper on Endermic Me-

dication, which physiologically is extremely curious, and therapeutically is of great importance. That mode of treatment was found eminently successful with *Digitalis* in Dropsy, with *Belladonna* in Rheumatism, in difficult parturition, in the reduction of Hernia, and in Dysuria, with *Castor Oil* in obstinate constipation, with *Camphor* in Erysipelas, in Peritonitis, in Hæmorrhages and in cerebral affections, and with *Iodine* in tumours and glandular complaints. All these remedies exerted their sanative properties by friction on the skin, but when a portion of the Epidermis was removed, and what is strictly termed the Endermic Medication was applied, the results were also very favorable with *Quinine* in Intermittent Fevers, with the *Acetate of Morphine* in Rheumatism and in several other disorders, and with *Strychnine* in paralytic cases. It would be superfluous to descant upon the advantages which attend this mode of treatment when the stomach is so irritable as not to retain medicine, or when from other causes it cannot be administered internally, and the learned Author appears to have distinguished most judiciously the circumstances under which it ought to be tried from those which might render it unsuccessful.

In the course of last year we were afflicted with a calamity which is most deeply to be deplored, and we sustained a loss which it is almost impossible to repair—I need not add that I advert to the untimely decease of Mr. Burnett, the Professor of Botany to this Society, and also to King's College. His name, which is become illustrious by his writings, will be transmitted by them to future generations, and his memory will constantly be cherished with admiration and gratitude by this Society, of which he was one of the brightest ornaments, and to

which he had rendered the most important services. His career, which was so honorable to himself and so useful to the world, was prematurely terminated, and he fell a victim to his zealous exertions, which his health and strength were unable to support, but which his ardent attachment to science impelled him to continue. His Lectures must be indelibly impressed upon your recollection, and were in the highest degree attractive, as his various acquirements and extensive information supplied him with inexhaustible materials for illustration, and with innumerable facts which were equally interesting and instructive. Amongst the many eminent qualities which he displayed, none was more conspicuous than his philosophical mode of treating, and his rare and admirable talent of adorning, a subject, which would otherwise be tedious and repulsive.

It is only when applied to purposes of practical utility, which are alone of real importance, and which ought constantly to be the objects of our pursuit, that Botany can be of value, for it would have very little merit, and have no claims on our attention, if it were to be confined, as is too frequently the case, to the complete enumeration and minute description of Plants, or even to their systematic arrangement, which, notwithstanding all the care and industry that have been bestowed upon it, seems to be still far removed from the perfection which is so much to be desired, and will, I have no doubt, be ultimately attained. The imperfection of the present nomenclature and classification is evinced not only by the multitude of Synonyms, but also by innumerable cases, in which the same plant is arranged in a different Genus, by some Botanists, from that which others have considered to be more appropriate. Hence arise that uncertainty and confusion

which is so injurious to Botany itself and so inconvenient to those who study it; and hence we may reasonably infer that the present system is not entirely satisfactory even to those who are the most competent authorities upon the subject. Although Linnæus classed the whole Vegetable Kingdom into 57 Natural Orders, they have since been increased to the number of 229, some of which have been again divided into Tribes, Sections, and Sub-Orders, while there are 34 Orders, each of which contains only two Genera, and about as many other Orders, comprising only a single Genus, and in some cases a Genus which has but one Species. While some plants, like Mignionette, the Pomegranate, and the Cobæa *scandens*, appear to be thus unsociable, there are others which, notwithstanding all their dissimilarities, are classed together; and the Elm, the Hop, the Fig, and the Nettle, are included by Jussieu in the same Order, and according to what is called a Natural Arrangement. According to another classification, the Elm belongs to the Order Ulmideæ, the Fig to the Artocarpeæ, and the Hop with the Nettle to the Urticæ. Classification is the more important, because Plants which are similar in their characters are so likewise in their qualities, and ought therefore to be arranged in such a manner as to facilitate the investigation by analogy. The advantages that are derived from that analogy would of themselves offer a sufficient recommendation to the study of Botany, which is also of extreme utility in establishing those precise and accurate definitions by which each Plant may be recognized, and may also be effectually distinguished from every other. The study must, however, be pursued with reference to some practical object, without which it becomes uninteresting to ourselves and unprofitable to others.

In a communication which was received from Mr. Batka, of Prague, it is observed by him, that the MATRICARIA *Chamomilla* (the Wild Chamomile), which is officinal in Germany, and which is nearly allied to the ANTHEMIS *nobilis* (the common or Roman Chamomile), is much preferable to it, and that the Essential Oil of the former, which constitutes its active principle, is very different from that of the latter. He considers the former to be useful in Hysteria, and to be an excellent cordial, while the latter sometimes produces spasmodic symptoms; and the former to be a mild and useful Emetic, but the latter to be violent and irritating. His remarks seem to me very interesting on account of the botanical analogy of the Plants, and will, I trust, lead to trials in this country, with a view of ascertaining their respective advantages.

We are informed by Dr. Hancock that the Quassia which is sold here is produced from the QUASSIA *excelsa* of Jamaica, which is a large Tree, possessing very little value medicinally, and not from the QUASSIA *amara* of Surinam and Essequibo, which is a shrub, and is recommended in the Pharmacopœia; and he asks very properly, why they are classed in the same Genus, when, "in "numerous instances," plants have from the slightest disparities been placed in different Genera? It appears that the QUASSIA *excelsa* is a Synonym of the SIMARUBA *excelsa*, as the QUASSIA *Simaruba* is of the SIMARUBA *officinalis*. He observes, also, that the medicinal qualities of the Guiacum are found in the Bark, which has alterative, sudorific, and resolvent powers, but not in the Wood and Resin, which are alone admitted in the British Pharmacopœia; and he deserves our gratitude for having called our attention to these important points that so much require further investigation. He communicated also to

this Society a paper on various Barks which he had found in South America, and some of which when combined are, in his opinion, more safe and efficacious than the Cinchona, particularly in cases of ardent or malignant fevers, and I need not recall to your recollection that a letter, with which I was favoured by Dr. Hamilton, mentions with great commendation a Bark that is named *El Malambo*. Such is the merit of these Barks, and such also the uncertainty which exists with regard to their botanical characters; that, as I learned last summer when I was in Germany, it is proposed to send some Botanists to South America for the express purpose of obtaining further information respecting them, and of procuring specimens for those persons who contribute towards the expence of that laudable and useful undertaking. If that project should be carried into execution, I would recommend that scientific descriptions of the Trees by which they are yielded, with specimens of their leaves and flowers, should be transmitted, informing us at the same time of their popular appellations, of the maladies in which they are supposed to be useful, of the manner, the dose, and the circumstances, in which they are administered, and that we should also receive large quantities of the Barks themselves, in order that their distinguishing characteristics might be accurately observed and carefully defined, that their medicinal qualities might be learned by practical experience in this country, and that their constituent principles might be examined by chemical analysis. These Barks would, as articles of commerce and for general use, be collected by persons ignorant of Botany, and who might find it convenient or profitable to substitute that which can be provided in great abundance, or with little trouble, for that which is required from its medicinal qualities. It is, therefore, of extreme import-

ance to know what are the "outward and visible signs" by which the genuine Barks may be distinguished from those which are spurious, and that the Merchant who imports them may be able to judge which of them ought to be received, and which of them ought to be rejected. It is of equal importance that the Pharmacopolist should be enabled to judge whether the Barks with which he is furnished are those which he is directed to employ, and to ascertain whether such is the case, not by an operose analysis, but, as far as is practicable, by some more easy and simple process. The utility of defining with great precision the characteristics of different drugs induced my learned friend Dr. Martius of Erlangen, to write upon that subject a most valuable and elaborate work.

In all researches of this nature Mr. Battley is well qualified to enlighten the world, from his profound knowledge, from his eminent talents, from his scientific investigations, which are conducted with so much skill, and crowned with so much success. The services which he has rendered to Pharmacy are so numerous, so well known, and so valuable that they need not be enumerated, and he appears to have incontrovertibly, and by the most decisive experiments, established a principle of the most extensive application, and of extreme importance, that a greater quantity of the medicinal qualities of some vegetable substances is extracted by cold Infusion than by Decoction. He states with respect to Sarsaparilla, "if sufficient time be allowed, cold water (*i. e.* at the ordinary temperature of the laboratory) will take up nearly the whole of the soluble principles without dispersing the aroma." This was satisfactorily proved by his analysis of several sorts of that very useful drug, which he believes to be the produce of more than one species, and

probably of not less than five. It was found with the Lima Sarsaparilla, that the average quantity of active principle obtained by Infusion from the entire roots, as well as from their component parts, the wood and the bark, was above twice as great as that obtained by Decoction, but with the East Indian Sarsaparilla, which contains a larger proportion of Starch, the products were nearly equal. The Decoction has the further disadvantage, that it loses the volatile principle, and, as Mr. Battley observes, "with a very trifling addition of useful matter, "takes up the Starch," which is dissolved only at a temperature exceeding 140°, and "which renders the "Medicine incapable of long preservation." On five different kinds of Sarsaparilla, respecting which he has published a most instructive Paper, the average loss, by evaporation, on 1 lb. was 3 ounces and 7 drachms, and the average loss of the volatile matter was 2 scruples and 15 grains.

In the same manner it is asserted by him, that the Gallic Acid, the Tann, and the Oxide of Iron, all of which are found in good Peruvian Bark, are held in solution by distilled water, which leaves a residue that is quite inert, the ligneous parts, the albumen, and the essential oil. He states that in 1lb. of that Bark there are not less than 3 oz. of Starch, but that one ounce of the substance can be reduced to one liquid drachm, preserving all the essential qualities, and in his *Liquor Cinchonæ cordifoliæ*, which is said to be greatly superior to the Sulphate of Quinine, all of them appear to be happily combined, excluding the gummy matter, the gluten, and the starch in which no active principle was discovered. The *Cinchona cordifolia*, or Yellow Peruvian Bark, contains an Acid which is supposed to be the Muriatic, while the *Cinchona*

lancifolia, or Pale Peruvian Bark, was found by him to contain Vitriolic Acid, with Muriate and Sulphate of Potash.

His experiments induced him to believe that the active medicinal property of the CONIUM *maculatum* depends on a green resinous matter, possessing a highly volatile principle, which is lost by heat, and the usual mode of preparing its Extract, by evaporating the expressed juice till it acquires a proper consistence, is considered by him to be obviously defective. I entertained, and on a former occasion I expressed, my confident expectation, that the constituent principles of the *Secale Cornutum* would be more fully understood when it had been analyzed by Mr. Battley, and that hope has been realized in a Paper which he has subsequently published. His analysis shewed that it contained a highly volatile principle, and a large proportion of common salt, with "a peculiar animal matter," but he found that all its constituents, with the exception of an inert substance, were extracted by distilled water, and that 5½ grains of the watery Extract, made by cold Infusion, are equal to 30 grains of the *Secale Cornutum*, or one fluid drachm of the Liquor is equivalent to one drachm of the powder of the Seed. The *Secale Cornutum* was tried with great success in cases of Hæmorrhage by Dr. Negri, by our learned Professor of Materia Medica, Dr. Rynn, and also by Dr. Sigmond, whom we have to thank for a most valuable Paper, which he lately communicated to us on the subject. Dr. Sigmond had not found that any injurious effects resulted from its use, which, however, he does not consider advisable when the patient is plethoric or constipated; and Dr. Spurani states that it ought not to be given when there is active inflammation, when, as Dr. Negri thinks, it may much in-

crease the morbid secretion of the mucous membranes, on which, in his opinion, it has a peculiar action. It appears very remarkable that its action on the Uterus should be exerted only during parturition, and, as Mr. Judd observed, that it should be of service in the suppression of the Catamenia, as well as in Hæmorrhages, and, to a certain extent, in Leucorrhea. Although, according to the experience of Mr. Mitchell, 18 drachms of the *Secale Cornutum* were given in 14 days, without producing any inconvenience to the patient, it is known that Bread made from Rye or from Wheat, which has suffered from the Ergot, is the cause of a disease termed Ergotism, that commences with a congestive fever, sometimes followed by a gangrene of the extremities. As the *Secale Cornutum* is much employed, and is become four times as expensive as it formerly was, it would be desirable to ascertain by trials whether the CHENOPODIUM *olidum*, which Mr. Houlton considered to have "a very decided action" on the Uterus, might not be used as a substitute, and to discover, by analysis, its constituent principles.

The process which Mr. Battley employs, which is so simple and so successful, and which is so analogous to the operations of nature, seems to be far more useful, and to produce remedies far more salutary than those chemical decompositions, however ingenious or instructive, that have been discovered of late years. It is observed by Dr. Berger, that the sanative quality does not consist in the component principles singly, but in their combination, and this opinion coincides with that of Dr. Hancock, that by separating principles, which nature has united, many valuable remedies are destroyed, and rendered almost effete, through the affectation of simplicity. I remember an example of that affectation in a person, who, considering that Soap was

the combination of an Alkali and an Oil, and that the latter could not of itself be useful as a detergent, employed the former alone, and, notwithstanding its caustic effects on the skin, he persisted in its use. The very complex composition termed *Mithridate*, was ridiculed, and at length expunged from the Pharmacopœia, but I was informed, by a very eminent English Physician, now deceased, that it was found in many cases to operate as an anodyne, when all other remedies had failed. It is no doubt extremely desirable to disengage from any vegetable substance, such, for instance, as the Peruvian Bark, the inert matter which it contains, and to reduce it to those constituent principles that render it efficacious, but it is unnecessary, and it appears very inexpedient to separate any one of those principles from the rest, and amongst others from the Acid with which it is naturally combined. We know from experience, and it has been sufficiently shewn by the practice of Physicians in former ages, as well as at present, that in many cases it is requisite, in some cases perhaps indispensable, to combine a medicinal substance with others which may modify its operation, which may counteract any of its injurious effects, or which may enable it to act with more certainty and safety. A Medicine which is compounded by art, and which has been proved, by innumerable trials, to possess sanative properties, is not considered to demand much, if any, improvement; though a Medicine which is prepared by nature, and which exhibits, in combination, several active principles, is decomposed with the view, not of separating from it the inert matter which may be blended with it, but of extracting that which is supposed to constitute its efficacy. It is only by medical experience and observation that it can be ascertained whether the principle which is thus extracted is salutary in its opera-

tion, what are the advantages or disadvantages which attend it, and whether it is or is not preferable to the combination in which it was originally found; but without the assistance of Chemistry, it could not be known what are the relative proportions in which that principle exists in various substances, and what are the other principles with which it is united in them by nature. May it not be reasonably inferred, that a principle with which it is generally thus united is most important, if not essential, to its beneficial effects? and must it not, in that case, be considered advisable to blend them when they are disunited, instead of separating them artificially when they are naturally combined?

Amongst the chemical preparations that have attained great celebrity is Calomel, a Medicine which enfeebles all the vital powers, and which may, from that circumstance, derive its efficacy in subduing active inflammation, but its operation is eminently injurious, and it cannot be sufficiently deplored that it should be rashly and ignorantly employed as a domestic remedy, and even as an ordinary aperient, instead of being reserved solely for those disorders which might seem to require it under the advice, and by the authority of a medical practitioner. As it is frequently thus misapplied, and as fashion, which is so often synonymous with folly, has promoted its use even in the tender age of infancy, we cannot be surprised that nervous disorders are common, that bodily vigour and mental energy are impaired, and that cases of insanity have become more numerous. An eminent Physician, whose experience in such cases was very extensive, and whose opinions were founded upon accurate observations, assured me that insanity had, in many instances, arisen from the injudicious employment of Calomel, and such must naturally be the

result, when both the mind and the body are debilitated by factitious means, when the infirmities of old age are prematurely produced, when life becomes languid, and the power no longer exists of enjoying the gifts of Providence, and of sustaining with composure the cares and vexations of our earthly pilgrimage. Under such circumstances, an infirmity may become intolerable, and the mental faculties may be disturbed, if not destroyed; but even when such lamentable consequences do not ensue, a shattered constitution, a sort of nominal existence in a melancholy and miserable state of dejection and debility, with enfeebled nerves and almost exhausted powers, may be more afflicting to the patient than a chronical disorder. It will be said, and I am ready to admit, that a mercurial preparation has not, in an equal quantity, the same action on different individuals, and that some persons are more susceptible than others of its injurious effects; but this circumstance furnishes an additional argument against the unnecessary administration of such a remedy, since its power, in any particular case, can be learned only from experience, and is sometimes found to be greater than was expected or wished by the Physician. So extensive is the misuse of mercurial preparations, and so injurious are their ultimate operation, that it has been most properly determined, by the Council of this Society, to offer the Gold Medal for the best Essay on the question, "*What is the vegetable substance which could be employed with success as a Substitute for Mercury in the cure of Syphilis, or of diseases of the Liver?*" It would be of extreme importance if effectual substitutes could be discovered for those medicines, which, from their potency, may be dangerous, if not fatal, when they are misapplied, and which, even when they remove a disorder, may produce permanent injury to

the Patient. That such substitutes may be found in some disorders, was shewn in a case which came under my personal observation, of a Lady to whom I was related, and who had been accustomed, for the purpose of allaying the pain arising from an internal complaint, to take Opium, of which the dose was gradually increased till it amounted to a considerable quantity; but it was at last discovered, though it was then too late to remedy the evils which had been thus occasioned, that the same relief was experienced from drinking Soda Water. Nothing would more contribute to the advancement of medical science, to the honor of the medical profession, and to the benefit of Patients, than the cure, by safe and simple means, of difficult or dangerous diseases, instead of employing, as is too frequently done, and even in cases of a different description, substances which are poisonous, and therefore powerful, but pernicious.

It is well known that in some instances Drugs which are vended under the same name and might be supposed to be similar in their effects, are so different in their qualities and powers, that the administration of them is attended with much uncertainty and therefore with considerable danger. The same Prescription may, in cases exactly similar, produce, from the dissimilarity in the properties of the Drug that is employed, either the cure or the fatal termination of the malady, and the accurate discrimination of the Drugs which are genuine from those which are of inferior quality, is of the utmost importance to those by whom they are compounded, as well as to those by whom they are administered. I speak from very high authority when I state, that of some Drugs which are vended in this country only four parts in a hundred are of the best quality, and are consequently possessed of their full effi-

eacy, while the other ninety-six parts contain in some instances only one half the quantity of the active principles which ought to belong to them. I am assured that of the Colocynth imported into this country, only one hundredth part is of the best quality, that there is of Scammony, of the Peruvian Bark, and of Rhubarb, only a very small proportion, but that there is of Ipecacuanha and of Sarsaparilla a larger proportion, and a larger still of Jalap, and all of these are, I need not say, very important Medicines which are frequently administered. If all of them were of an inferior quality they would of course be far less efficacious, but there would not be the same difficulty and danger in employing them, as is now experienced from the inequality in their power and consequently from the uncertainty in their operation. The great difference of price between those of the best and those of an inferior quality offer a strong inducement to use the latter, and it would be an inestimable advantage to the art of Medicine if satisfactory substitutes for them could be discovered amongst the plants which are indigenous to this country. The admirable Paper of Dr. Rousseau, which I before mentioned, proves incontestably that in the cure of intermittent fevers Holly is preferable to the Peruvian Bark; there is reason to believe that Rhubarb of a good quality could be produced in this country, and that Elm Bark may supply the place of Sarsaparilla, and it deserves further enquiry, whether the Juice of the EUPHORBIA *Cyparissias* could not be used instead of Scammony, and the Seeds of the ATRIPLEX *angustifolia* instead of Ipecacuanha. The analysis of these common indigenous Plants would be highly interesting, and may, I hope, be considered worthy of the scientific researches of Mr. Bottley, who is always very anxious to promote the welfare

of this Society, the objects of which are so important and beneficial to mankind.

His zeal in the cause of science, and his unceasing kindness to this Society, are manifested upon every occasion, and he recently allowed us to exhibit thirty specimens of vegetable substances which are used as Medicine by the natives of several countries, and which were with great propriety sent to him as they were for the first time imported into this island. Though at present little is known respecting them, I trust that we shall have the satisfaction of learning from his analysis what are their constituent principles, and of receiving also a full report on their employment and on their operation from those who have had the opportunity of observing their effects in the various diseases for which they are administered. He has on many occasions rendered our Meetings peculiarly attractive by furnishing them with the finest specimens of medicinal drugs, some of which are very rare and valuable, and all of which ought to be carefully examined and compared, in order to acquire a knowledge of their external characters, and thus to distinguish their specific differences and their respective qualities. On this occasion also he has favored us with one of those interesting and instructive exhibitions which are most important to those who study the *Materia Medica*, and which must excite the attention not only of every friend of science, but indeed of every person who considers that the success of the Physician and the safety of the Patient very much depend on the nature and on the qualities of the Medicines which are employed. Some of the specimens will be seen in the adjoining apartments, as they are too numerous to be displayed in this Theatre where I have now the honor to appear, through the kind indulgence,

which I most gratefully recognize, of the Managers of the Royal Institution. In the name of this Society, and also in my own, I beg leave to offer to Mr. Bettley our cordial thanks for his valuable assistance, and to express our earnest and anxious wish that the world may very long continue to enjoy the advantages which he is so able and so willing to bestow.

I have already too long detained you from the gratification and instruction which you cannot fail to derive from this scientific exhibition, and it is with the utmost diffidence that I have ventured to mention any subjects relating to the art of Medicine, having now the honor of being surrounded by persons eminent in that profession, and of speaking in the presence of him who is so deservedly at their head, my excellent and revered Friend the President of the College of Physicians. I consider it, however, as one of the duties appertaining to the situation which I am proud of holding in this Society, though it was conferred by your favor and not from any merits which I can claim, to bring again under your notice some of the communications which you have received, and in the course of that retrospect to submit to you those observations which, as appear to me, might in some degree be useful, and which, if the contrary should be the case, may, I hope, be excused. I sincerely wish that the zeal with which I shall always be animated in your service were accompanied by those abilities and acquirements that would enable me to forward more efficiently the objects which you pursue, and which, when they are estimated by the only true standard, by their practical utility, must be appreciated as they deserve, and ought to secure to this Society that encouragement and support which it has not yet received, but which it is justly entitled to expect.

May this Society continue its researches with patience and perseverance, may the success of its exertions, and the influence of its example, confer the most signal benefits on mankind, and may it attain that prosperity which I ardently desire and shall always endeavour to promote.

J. Wilson, Printer, George Court, Piccadilly.